carbides, nitrides, carbonitrides, and borides of W, Ti, Mo, Nb, V, Si, Hf, Ta, Cr, and mixtures thereof; and

a second phase of binder alloy bonding the first phase of grains together and formed from a blend of metals selected from the group consisting of Co, Ni, Fe, W, Mo, Ti, Ta, V, Nb, C, B, Cr, and Mn;

wherein the binder alloy has a coefficient of thermal expansion of less than about 10 ppm/°C within a temperature range of from 100 to 700°C.

2. The cermet material as recited in claim 1 wherein the first phase is WC.

3. The cermet material as recited in claim 1 wherein the first phase is WC-TiC-TaC.

4. The cermet material as recited in claim 1 wherein the first phase is TiC.

5. The cermet material as recited in claim 1 wherein the first phase is TiC-TiCN.

6. The cermet material as recited in claims 2, 3, 4, and 5 wherein the binder alloy comprises a mixture of Co, Ni and Fe and comprises up to approximately 60 percent by weight Co, and up to approximately 50 percent by weight nickel based on the total weight of the binder alloy.

7. The cermet material as recited in claim 6 wherein the binder alloy is iron based and comprises in the range of from about 10 to 30 percent by weight Co, and 10 to 40 percent by weight Ni based on the total weight of the binder alloy.

8. The cermet material as recited in claim 6 wherein the binder alloy is cobalt based.

9. The cermet material as recited in claim 6 wherein the binder alloy is nickel based.

10. The cermet material as recited in claim 1 comprising in the range of from about 5 to 30 percent by weight of the binder alloy based on the total weight of the cermet material.

11. The cermet material as recited in claim 1 wherein the difference between the coefficient of thermal expansion for the binder alloy and the first phase of grains is less than about 5 ppm/°C.

12. The cermet material as recited in claim 11 wherein the difference between the coefficient of thermal expansion for the binder alloy and the first phase of grains is less than about 2 ppm/°C.

13. A rock bit comprising a body having a number of legs that extend therefrom, cutting cones rotatably disposed on an end of each leg, a plurality of cutting inserts disposed in the cutting cones, wherein the cutting inserts are formed from the cermet material recited in claim 1.

14. (Amended) A low coefficient of thermal expansion cermet composition comprising:

a first phase of grains selected from the group consisting of carbides, nitrides, carbonitrides, and borides of W, Ti, Mo, Nb, V, Si, Hf, Ta, Cr, and mixtures thereof; and

a second phase of binder alloy bonding the first phase of grains together and formed from a mixture of metals selected from the group consisting of Co, Ni, Fe, W, Mo, Ti, Ta, V, Nb, C, B, Cr, and Mn;

wherein the cermet composition has a coefficient of thermal expansion less than that of conventional WC-Co at the same temperature and having the same metal content a temperature range of from 100 to 700°C; and

wherein the binder alloy comprises in the range of from about 10 to 30 percent by weight of the total weight of the cermet material.

15. The cermet composition as recited in claim 14 wherein the first phase is WC.

16. The cermet composition as recited in claim 14 wherein the first phase is WC-TiC-TaC.

17. The cermet composition as recited in claim 14 wherein the first phase is TiC.

18. The cermet composition as recited in claim 14 wherein the first phase is TiC-TiCN.

19. The cermet composition as recited in claims 15, 16, 17, and 18 wherein the binder alloy comprises a mixture of Co, Ni and Fe and comprises up to approximately 60 percent by weight Co, and up to approximately 50 percent by weight nickel based on the total weight of the binder alloy.

20. The cermet composition as recited in claim 19 wherein the binder alloy has a coefficient of thermal expansion of less than about 10 ppm/°C within a temperature range of from 100 to 700°C.

21. The cermet composition as recited in claim 19 wherein the difference between the coefficient of thermal expansion for the binder alloy and the first phase of grains is less than about 2 ppm/°C.

22. The cermet composition as recited in claim 19 wherein the binder alloy is iron based and comprises in the range of from about 10 to 30 percent by weight Co, and 10 to 40 percent by weight Ni based on the total weight of the binder alloy.

23. The cermet composition as recited in claim 19 wherein the binder alloy is cobalt based.

24. The cermet composition as recited in claim 19 wherein the binder alloy is nickel based.

25. (Amended) A low coefficient of thermal expansion cermet material comprising:

a first phase of grains selected from the group consisting of carbides, nitrides, carbonitrides, and borides of W, Ti, Mo, Nb, V, Si, Hf, Ta, Cr, and mixtures thereof; and

a second phase of binder alloy bonding the first phase of grains together and formed from a mixture of metals selected from the group consisting of Co, Ni, Fe, W, Mo, Ti, Ta, V, Nb, C, B, Cr, and Mn; and

a third phase selected from the group of materials consisting of Co, Ni, Fe, W, Mo, Ti, Ta, V, Nb, alloys thereof, and alloys with materials selected from the group consisting of B, Cr, and Mn, wherein the first and second phases form particles that are disbursed within the third phase;

wherein the binder alloy has a coefficient of thermal expansion of less than about 6 ppm/°C within a temperature range of from 100 to 700°C.

26. The cermet material as recited in claim 25 wherein the cermet material has a coefficient of thermal expansion that is less than that of conventional WC-Co at the same temperature and having the same metal binder content.

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27. The cermet material as recited in claim 25 wherein the cermet material has a coefficient of thermal expansion of less than or equal to about 6 ppm/°C within a temperature range of from 100 to 700°C.

28. The cermet material as recited in claim 25 wherein the first phase of grains is WC and the binder alloy is a mixture of Co, Ni, and Fe and comprises up to approximately 60 percent by weight Co, and up to approximately 50 percent by weight Ni based on the total weight of the binder alloy.

29. The cermet material as recited in claim 27 wherein the binder alloy is iron based and comprises in the range of from about 10 to 30 percent by weight Co, and 10 to 40 percent by weight Ni based on the total weight of the binder alloy.

30. The cermet material as recited in claim 27 wherein the binder alloy is cobalt based.

31. The cermet material as recited in claim 27 wherein the binder alloy is nickel based.

32. The cermet material as recited in claim 25 comprising in the range of from about 1 to 30 percent by weight of the binder alloy based on the total weight of the cermet material.

33. A rotary cone rock bit comprising:

a body having a number of legs that extend therefrom;

cutting cones rotatably disposed on an end of each leg;

a plurality of cutting inserts disposed in the cutting cones, wherein the cutting inserts are formed from a cermet material comprising a first phase of grains and a second ductile phase bonding

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the grains, wherein the first phase of grains is selected from the group consisting of carbides, nitrides, carbonitrides, and borides of W, Ti, Mo, Nb, V, Si, Hf, Ta, Cr and mixtures thereof, wherein the second ductile phase is a binder alloy formed from two or more metals selected from the group consisting of Co, Ni, Fe, W, Mo, Ti, Ta, V, Nb, C, B, Cr, and Mn;

wherein the binder alloy has a coefficient of thermal expansion less than about 6 ppm/°C within a temperature range of from 100 to 700°C.

34. The rock bit as recited in claim 33 wherein the difference between the coefficient of thermal expansion for the binder alloy and the first phase of grains is less than about 2 ppm/°C.

35. The rock bit as recited in claim 33 wherein the first phase of grains is selected from the group consisting of WC, TiC, TaC, TiCN, and mixtures thereof, and the binder alloy is a mixture of Co, Ni, and Fe.

36. The rock bit as recited in claim 35 wherein the binder alloy comprises up to approximately 60 percent by weight Co, and up to approximately 50 percent by weight Ni based on the total weight of the binder alloy.

37. The rock bit as recited in claim 36 wherein the binder alloy is iron based and comprises in the range of from about 10 to 30 percent by weight Co, and 10 to 40 percent by weight Ni based on the total weight of the binder alloy.

38. The rock bit as recited in claim 36 wherein the binder alloy is cobalt based.

39. The rock bit as recited in claim 36 wherein the binder alloy is nickel based.

40. The rock bit as recited in claim 36 comprising in the range of from about 10 to 30 percent by weight of the binder alloy based on the total weight of the cermet material.

41. The rock bit as recited in claim 33 wherein the cermet material further comprises a continuous further ductile phase, wherein particles formed from the grains and binder alloy are disbursed therein, the further ductile phase being selected from the group consisting of Co, Ni, Fe, W, Mo, Ti, Ta, V, Nb, alloys thereof, and alloys with materials selected from the group consisting of B, Cr, and Mn;

wherein the cermet comprising the further ductile phase has a coefficient of thermal expansion less than that of conventional WC-Co at the same temperature and having the same metal content.

42. The rock bit as recited in claim 33 wherein the cermet material has a coefficient of thermal expansion that is less than that of conventional WC-C at the same temperature and having the same metal content within a temperature range of from 100 to 700°C.

43. A low coefficient of thermal expansion cermet composition comprising:

a first structural phase comprising a hard material selected from the group of compounds consisting of carbides, nitrides, carbonitrides, and borides from groups IVA, VA, and VIA of the periodic table;

a second structural phase comprising a ductile binder material formed from a mixture of metals selected from the group consisting of Co, Ni, Fe, W, Mo, Mn, Cu, Al, Nb, C, Ti, and Ta, the second

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structural phase being in contact with at least a portion of the first structural phase;

wherein the cermet composition comprises a repeating arrangement of structural units each having an ordered microstructure of first and second structural phases;

wherein the ductile binder has a coefficient of thermal expansion less than about 10 ppm/°C within a temperature range of from 100 to 700°C.

44. The cermet composition as recited in claim 43 wherein the difference between the coefficient of thermal expansion for the first and second structural phases is less than about 2 ppm/°C.

45. The cermet composition as recited in claim 43 wherein the binder material comprises a mixture of Co, Ni and Fe and comprises up to approximately 60 percent by weight Co, and up to approximately 50 percent by weight nickel based on the total weight of the binder alloy.

46. The cermet composition as recited in claim 45 wherein the binder alloy is iron based and comprises in the range of from about 10 to 30 percent by weight Co, and 10 to 40 percent by weight Ni based on the total weight of the binder alloy.

47. The cermet composition as recited in claim 43 wherein the binder alloy is cobalt based.

48. The cermet composition as recited in claim 43 wherein the binder alloy is nickel based.